PERIODIC TABLE OF THE ELEMENTS

Key

- Group (IUPAC): 11
- Group (CAS): IB
- Atomic Number: 79
- Oxidation States: +3 +1
- Symbol: Au
- Name: Gold
- Atomic Mass: 196.967
- Electron Shell Configuration: 2 8 18 32 18 1

ELECTRON SHELLS

Energy Level	1	2	3	4	5	6	7	8
Shell Name	K	L	M	N	O	P	Q	R
Max. Electrons	2	8	18	32	32	18	8	2
s	2	2	2	2	2	2	2	2
p		6	6	6	6	6	6	
d			10	10	10	10		
f				14	14			

Cell format: atomic number (oxidation states) / symbol / name / atomic mass / electron shell configuration

	1 IA	2 IIA	3 IIIB	4 IVB	5 VB	6 VIB	7 VIIB	8 VIIIB	9 VIIIB	10 VIIIB	11 IB	12 IIB	13 IIIA	14 IVA	15 VA	16 VIA	17 VIIA	18 VIIIA
1	1 (+1 -1) **H** Hydrogen 1.008 1																	2 (0) **He** Helium 4.003 2
2	3 (+1) **Li** Lithium 6.941 2 1	4 (+2) **Be** Beryllium 9.012 2 2											5 (+3) **B** Boron 10.811 2 3	6 (+4 +2 -4) **C** Carbon 12.011 2 4	7 (+5 +3 -3) **N** Nitrogen 14.007 2 5	8 (-2) **O** Oxygen 15.999 2 6	9 (-1) **F** Fluorine 18.998 2 7	10 (0) **Ne** Neon 20.180 2 8
3	11 (+1) **Na** Sodium 22.990 2 8 1	12 (+2) **Mg** Magnesium 24.305 2 8 2											13 (+3) **Al** Aluminum 26.982 2 8 3	14 (+4 -4) **Si** Silicon 28.086 2 8 4	15 (+5 +3 -3) **P** Phosphorus 30.974 2 8 5	16 (+6 +4 +2 -2) **S** Sulfur 32.066 2 8 6	17 (+7 +5 +3 +1 -1) **Cl** Chlorine 35.453 2 8 7	18 (0) **Ar** Argon 39.948 2 8 8
4	19 (+1) **K** Potassium 39.098 2 8 8 1	20 (+2) **Ca** Calcium 40.078 2 8 8 2	21 (+3) **Sc** Scandium 44.956 2 8 9 2	22 (+4) **Ti** Titanium 47.867 2 8 10 2	23 (+5) **V** Vanadium 50.942 2 8 11 2	24 (+6 +3) **Cr** Chromium 51.996 2 8 13 1	25 (+7 +4 +2) **Mn** Manganese 54.938 2 8 13 2	26 (+6 +3 +2) **Fe** Iron 55.845 2 8 14 2	27 (+2) **Co** Cobalt 58.933 2 8 15 2	28 (+2) **Ni** Nickel 58.693 2 8 16 2	29 (+2 +1) **Cu** Copper 63.546 2 8 18 1	30 (+2) **Zn** Zinc 65.38 2 8 18 2	31 (+3) **Ga** Gallium 69.723 2 8 18 3	32 (+4 +2 -4) **Ge** Germanium 72.631 2 8 18 4	33 (+5 +3 -3) **As** Arsenic 74.922 2 8 18 5	34 (+6 +4 +2 -2) **Se** Selenium 78.971 2 8 18 6	35 (+5 +3 +1 -1) **Br** Bromine 79.904 2 8 18 7	36 (+2 0) **Kr** Krypton 83.798 2 8 18 8
5	37 (+1) **Rb** Rubidium 85.468 2 8 18 8 1	38 (+2) **Sr** Strontium 87.62 2 8 18 8 2	39 (+3) **Y** Yttrium 88.906 2 8 18 9 2	40 (+4) **Zr** Zirconium 91.224 2 8 18 10 2	41 (+5) **Nb** Niobium 92.906 2 8 18 12 1	42 (+6 +4) **Mo** Molybdenum 95.95 2 8 18 13 1	43 (+7 +4) **Tc** Technetium 98.907 2 8 18 13 2	44 (+4 +3) **Ru** Ruthenium 101.07 2 8 18 15 1	45 (+3) **Rh** Rhodium 102.906 2 8 18 16 1	46 (+4 +2) **Pd** Palladium 106.42 2 8 18 18	47 (+3 +2 +1) **Ag** Silver 107.868 2 8 18 18 1	48 (+2) **Cd** Cadmium 112.414 2 8 18 18 2	49 (+3) **In** Indium 114.818 2 8 18 18 3	50 (+4 +2 -4) **Sn** Tin 118.711 2 8 18 18 4	51 (+5 +3 -3) **Sb** Antimony 121.760 2 8 18 18 5	52 (+6 +4 +2 -2) **Te** Tellurium 127.6 2 8 18 18 6	53 (+7 +5 +3 +1 -1) **I** Iodine 126.904 2 8 18 18 7	54 (+6 +4 +2 0) **Xe** Xenon 131.293 2 8 18 18 8
6	55 (+1) **Cs** Cesium 132.905 2 8 18 18 8 1	56 (+2) **Ba** Barium 137.328 2 8 18 18 8 2	57-71 Lanthanoids	72 (+4) **Hf** Hafnium 178.49 2 8 18 32 10 2	73 (+5) **Ta** Tantalum 180.948 2 8 18 32 11 2	74 (+6 +4) **W** Tungsten 183.84 2 8 18 32 12 2	75 (+4) **Re** Rhenium 186.207 2 8 18 32 13 2	76 (+4) **Os** Osmium 190.23 2 8 18 32 14 2	77 (+4 +3) **Ir** Iridium 192.217 2 8 18 32 15 2	78 (+4 +2) **Pt** Platinum 195.085 2 8 18 32 17 1	79 (+3 +1) **Au** Gold 196.967 2 8 18 32 18 1	80 (+2 +1) **Hg** Mercury 200.592 2 8 18 32 18 2	81 (+3 +1) **Tl** Thallium 204.383 2 8 18 32 18 3	82 (+4 +2) **Pb** Lead 207.2 2 8 18 32 18 4	83 (+3) **Bi** Bismuth 208.980 2 8 18 32 18 5	84 (+4 +2 -2) **Po** Polonium [208.982] 2 8 18 32 18 6	85 (+1 -1) **At** Astatine 209.987 2 8 18 32 18 7	86 (+2 0) **Rn** Radon 222.018 2 8 18 32 18 8
7	87 (+1) **Fr** Francium 223.020 2 8 18 32 18 8 1	88 (+2) **Ra** Radium 226.025 2 8 18 32 18 8 2	89-103 Actinoids	104 (+4) **Rf** Rutherfordium [261] 2 8 18 32 32 10 2	105 (+5) **Db** Dubnium [262] 2 8 18 32 32 11 2	106 (+6) **Sg** Seaborgium [266] 2 8 18 32 32 12 2	107 (+7) **Bh** Bohrium [264] 2 8 18 32 32 13 2	108 (+8) **Hs** Hassium [269] 2 8 18 32 32 14 2	109 **Mt** Meitnerium [278] 2 8 18 32 32 15 2	110 **Ds** Darmstadtium [281] 2 8 18 32 32 16 2	111 **Rg** Roentgenium [280] 2 8 18 32 32 17 2	112 (+2) **Cn** Copernicium [285] 2 8 18 32 32 18 2	113 **Nh** Nihonium [286] 2 8 18 32 32 18 3	114 **Fl** Flerovium [289] 2 8 18 32 32 18 4	115 **Mc** Moscovium [289] 2 8 18 32 32 18 5	116 **Lv** Livermorium [293] 2 8 18 32 32 18 6	117 **Ts** Tennessine [294] 2 8 18 32 32 18 7	118 **Og** Oganesson [294] 2 8 18 32 32 18 8

Lanthanoids	57 (+3) **La** Lanthanum 138.905 2 8 18 18 9 2	58 (+4 +3) **Ce** Cerium 140.116 2 8 18 19 9 2	59 (+3) **Pr** Praseodymium 140.908 2 8 18 21 8 2	60 (+3) **Nd** Neodymium 144.243 2 8 18 22 8 2	61 (+3) **Pm** Promethium 144.913 2 8 18 23 8 2	62 (+3) **Sm** Samarium 150.36 2 8 18 24 8 2	63 (+3 +2) **Eu** Europium 151.964 2 8 18 25 8 2	64 (+3) **Gd** Gadolinium 157.25 2 8 18 25 9 2	65 (+3) **Tb** Terbium 158.925 2 8 18 27 8 2	66 (+3) **Dy** Dysprosium 162.500 2 8 18 28 8 2	67 (+3) **Ho** Holmium 164.930 2 8 18 29 8 2	68 (+3) **Er** Erbium 167.259 2 8 18 30 8 2	69 (+3) **Tm** Thulium 168.934 2 8 18 31 8 2	70 (+3) **Yb** Ytterbium 173.055 2 8 18 32 8 2	71 (+3) **Lu** Lutetium 174.967 2 8 18 32 9 2
Actinoids	89 (+3) **Ac** Actinium 227.028 2 8 18 32 18 9 2	90 (+4) **Th** Thorium 232.038 2 8 18 32 18 10 2	91 (+5) **Pa** Protactinium 231.036 2 8 18 32 20 9 2	92 (+6) **U** Uranium 238.029 2 8 18 32 21 9 2	93 (+5) **Np** Neptunium 237.048 2 8 18 32 22 9 2	94 (+4) **Pu** Plutonium 244.064 2 8 18 32 24 8 2	95 (+3) **Am** Americium 243.061 2 8 18 32 25 8 2	96 (+3) **Cm** Curium 247.070 2 8 18 32 25 9 2	97 (+3) **Bk** Berkelium 247.070 2 8 18 32 27 8 2	98 (+3) **Cf** Californium 251.080 2 8 18 32 28 8 2	99 (+3) **Es** Einsteinium [254] 2 8 18 32 29 8 2	100 (+3) **Fm** Fermium 257.095 2 8 18 32 30 8 2	101 (+3) **Md** Mendelevium 258.1 2 8 18 32 31 8 2	102 (+2) **No** Nobelium 259.101 2 8 18 32 32 8 2	103 (+3) **Lr** Lawrencium [262] 2 8 18 32 32 8 3